CLACKAMAS
WATER ENVIRONMENT SERVICES

GREGORY L. GEIST | DIRECTOR
Water Quality Protection
Surface Water Management
Wastewater Collection & Treatment

June 22, 2023 BCC Agenda Date/Item: _____

Board of County Commissioners
Acting as the governing body of Water Environment Services
Clackamas County

Approval of Amendment #5 extending duration, modifying scope of work, and increasing funding to a contract with Parametrix Inc. for consulting services for the 3-Creeks Floodplain Enhancement Project. Amendment value is $750,735.01 for 1.5 years, increasing Total contract value to $1,548,171.40 for 6 years. Funding through Water Environment Services Surface Water Construction Fund. No County General Funds are involved.

Previous Board Action/Review	• Original Contract approved by The Board – June 11, 2020. • Presented at Issues – June 20, 2023.		
Performance Clackamas	1. This project supports the County's Strategic Priorities to: • Honor, Utilize, Promote and Invest in our Natural Resources. • Build a Strong Infrastructure 2. The project supports WES's strategic result that 30% of streams within WES' jurisdiction meet or exceed water quality standards.		
Counsel Review	Yes	**Procurement Review**	Yes
Contact Person	Ron Wierenga	**Contact Phone**	503-742-4581

EXECUTIVE SUMMARY: The 3-Creeks Natural Area is an approximately 80-acre regional natural area marked by the confluence of Mt. Scott, Phillips, and Dean Creeks in Northern Clackamas County. It includes a large flood control facility, wetlands, uplands, open space areas, and related facilities. WES has been managing a restoration project that will help protect downstream areas from flooding, enhance seasonal stream and floodplain habitat for aquatic species, and improve water quality. WES has been working with a consultant team to assess site conditions, gather public input on the site, and evaluate alternatives to optimize the existing flow control system and restore the creek and floodplain within the natural area.

Phase 1 consisted of work to determine the best path forward, including technical analyses, modeling, development of alternatives, an alternatives analysis, public involvement and engagement, and preliminary design. Phase 1 is now complete. Phase 2 was planned to be authorized separately because its scope and budget depended on the outcome of Phase 1. Now that a preferred alternative has been selected we are able to detail the scope for Phase 2 and are ready to proceed.

Phase 2 work includes detailed design, specifications, cost estimate and permitting impacts to environmental and cultural resources; final hydraulic and hydrologic modeling; public access coordination; public

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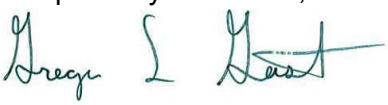
engagement; floodplain studies, mapping and permitting; geotechnical explorations and analysis; and bidding assistance.

RECOMMENDATION: Staff recommends that the Board of County Commissioners of Clackamas County, acting as the governing body of Water Environment Services, approve the amendment with Parametrix Inc. for consulting services for the Three Creeks Floodplain Enhancement Project.

Respectfully submitted,



Greg Geist
Director, WES

Attachment: Amendment #5 for Parametrix Contract #2149

AMENDMENT #5
TO THE CONTRACT DOCUMENTS WITH PARAMETRIX, INC. FOR CONSULTING SERVICES FOR THE THREE CREEKS FLOODPLAIN ENHANCEMENT PROJECT
Contract #2149

This Amendment #5 is entered into between **Parametrix, Inc.** ("Contractor") and Water Environment Services ("District") and shall become part of the Contract documents entered into between both parties on **June 11, 2020** ("Contract").

The Purpose of this Amendment #5 is to make the following changes to the Contract:

1. ARTICLE I, Section 1. **Effective Date and Duration** is hereby amended as follows:
The Contract termination date is hereby changed from December 31, 2024 to **June 30, 2026.**

2. ARTICLE I, Section 2. **Scope of Work** is hereby amended as follows:
This Amendment #5 authorizes Contractor to begin Work on Phase 2 of the Three Creeks Floodplain Enhancement Project. Article 1, Section 2 of the Contract contemplated work being performed in three phases: Phase 1 – Data collection, modeling, alternatives analysis and preliminary design; Phase 2 – Final design and permitting; and Phase 3 – Bidding and construction. Phases 2 and 3 are to be authorized only through an amendment.

Scope of Work Exhibit B for Phase II only hereby removed and replaced with **Updated Scope of Work Exhibit B for Phase II**, attached and hereby incorporated by reference.

3. ARTICLE I, Section 3. **Consideration** is hereby amended as follows:
District is authorizing an additional **$750,735.01** for Phase 2 Work to be performed. Fee Schedule Exhibit C for Phase II only is hereby removed and replaced with **Updated Fee Schedule Exhibit C for Phase II**, attached and hereby incorporated by reference. The total Contract Compensation shall not exceed $1,548,171.40

ORIGINAL CONTRACT	$ **705,418.18**
AMENDMENT #1	Added Language
AMENDMENT #2	$ 45,259.65
AMENDMENT #3	$ 46,758.56
AMENDMENT #4	Time Extension
AMENDMENT #5	**$ 750,735.01**
TOTAL AMENDED CONTRACT	**$1,548,171.40**

Except as expressly amended above, all other terms and conditions of the Contract shall remain in full force and effect. By signature below, the parties agree to this Amendment #5, effective upon the date of the last signature below.

Parametrix, Inc.

5/31/2023
Authorized Signature Date

Roger W. Flint, Chief Operating Officer
Printed Name

Water Environment Services

Chair

Recording Secretary

Approved as to Form

6/2/23
County Counsel Date

Exhibit B
Updated Scope of Work for Phase II

SCOPE OF WORK

Clackamas Water Environment Services
Phase 2: 3-Creeks Facility Upgrades Design

PROJECT BACKGROUND

Clackamas Water Environment Services (WES) operates a large regional stormwater facility at a site known as the Three Creeks Natural Area (3-Creeks), so named by the nearby confluence of Mt. Scott, Phillips, and Dean Creeks. The site is a complex of wetlands, uplands, open space areas, and related facilities. The stormwater facility consists of an active flow control gate system and a large passive storage pool behind the control gates that can fill during large rainfall events. This pool, when full, can inundate much of the site along Mt. Scott Creek. WES has had a long-term interest in continuing to optimize the facility and improve water resource quality in the basin by modifying its flood management performance, water quality, and riparian, wetland, in-stream, and upland habitat.

Goals of the 3- Creeks Enhancement Project are:

- Improve water quality
- Increase over-bank flood storage in the floodplain
- Optimize floodplain storage and peak flow reduction of the facility
- Protect riparian and wetland habitat
- Provide resilience to climate change to the extent feasible
- Allow for community benefits such as pedestrian access if feasible

In Phase 1, the project developed alternatives and has selected a preferred alternative to advance to final design. The preferred alternative has been advanced to a 30 percent design level for developing a report and working with stakeholders. A preliminary design report was prepared according to a guidance document for Clean Water State Revolving Funds applicants and designers called the *Preliminary Guidelines for a Stream Restoration Project Pre-Design Report*. The Oregon Department of Environmental Quality (DEQ) has reviewed and accepted the report and has asked for clarification on a few design elements that will be addressed in the final design. Phase 2, described in the following work breakdown, will take the project to full design bid documents and complete permits for construction.

WORK BREAKDOWN

Phase 2 – Detailed Design and Permitting

This phase includes services for detailed design and includes tasks for intermediate (60 percent), prefinal (90 percent), and final (100 percent) design. In addition, tasks started in Phase 1 are carried over for completion in this phase.

Task 1.0 – Kick-Off Meeting and Stakeholder Coordination

The purpose of this task is to initiate the next step of project design and construction bid documents phase.

Activities

- **Conduct kickoff meeting.** Lead a project kickoff meeting, including discussion of project goals and objectives, team communications, scope and schedule, risk register development (the risk register is a tool to identify and manage threats to the project), coordination with other projects, grant obligations, and preliminary data needs. Determine changes needed from 30 percent design based on input received recently from preliminary permitting agency meetings.

Assumptions

- Kick-off meeting to include WES staff and will include up to eight consultant team staff.

Deliverables

- Preliminary risk register (to be updated in the project management task)

Task 2.0 – *Not Included in This Phase*

Task 3.0 – Additional Project Analyses

Task 3.1 – Hydrologic and Hydraulic Modeling

The purpose of this task is to manage a project model of the system hydrology and hydraulics for the flood control facility. This will include hydraulic structure design. A separate floodplain modeling effort is included in Task 3.6.

Activities

- Use the 3-Creeks hydraulic model prepared in Phase 1 to refine and select the preferred control option.
- Provide WES with electronic files of all models.

Assumptions

- Updates to the modeling inputs determined in Task 3.6 will be coordinated with this task.

Deliverables

- Modeling section to be included in the final basis of design report

Task 3.2 – *Not Included in This Phase*

Task 3.3 – Public Access Coordination

The purpose of this task is to continue to process existing pedestrian use and consider future uses and potential changes due to flood control and stream restoration alternatives.

- **Meet with Stakeholders.** Meet with stakeholders, to discuss the feasibility of providing pedestrian access.
- **Access and Construction Road Conversion.** Coordinating with the Civil engineer in Task 6, direct the planning for conversion, type, and design of the proposed access – maintenance road in coordination with expected future uses.

Assumptions

- The budget assumes a level of effort of 16 hours for design support, including meetings.

Deliverables

- There are no deliverables for this task. Possibly provide a road/trail layout?

Task 3.4 – *Not Included in This Phase*

Task 3.5 – Public Engagement Process

The purpose of the public engagement task is to design and implement a plan for continued stakeholder involvement, including neighbors, businesses, watershed and environmental stewards, County residents, elected officials, internal/external agencies and institutions, etc.

Activities

- Prepare a design phase public engagement and communications plan. The public engagement plan will include a list of known stakeholders, key messaging for the project, and schedule of activities, and tools to inform and solicit input that align with project design and permitting.
- Update public information materials for print, including web content for the agency website, a project factsheet, video, and compelling illustrative map and context graphics that describe the purpose, process, and importance of the project and the 3- Creeks Natural Area (environmental function and community resource).
- Host a community or stakeholder event to share the next phase of the project.

Assumptions

- The workshop will have a web version.
- WES will update the project website with materials provided by consultant.
- WES will serve as a public point of contact on the website and in-print materials.
- WES will distribute emails to stakeholders through existing WES email lists; Consultant will update a stakeholder list and provide to WES in advance of any email.
- WES will print and mail any mailed public information.
- WES will provide a geographic mailing list and provide a list of known stakeholders if needed; consultant team will add more during research.

Deliverables

- Web content for use on the project including materials listed above
- Postcard or 8.5x11 mailer and email invite to the design workshop
- Online versions of the public event

Task 3.6 – Hydraulic Modeling for Floodplain Studies and Mapping

The purpose of this task is to conduct floodplain analysis, modeling, mapping, and floodplain map updates for streams related to the study analysis and adjacent reaches. In addition, flood reduction evaluations not related to flow reduction in the 3-Creeks facility will be developed and assessed.

Activities

- **Review existing and future hydrology with new controls.** Research and review available documents and data. Select the information to be used for modeling and design.
- **Prepare and update hydraulic models.** Update hydraulic model (HEC-RAS) of Mt. Scott Creek.
- **Evaluate selected alternatives.** Flood management project alternatives will be assessed.
- **Prepare CLOMR**. Prepare a Conditional Letter of Map Revision (CLOMR) for all proposed modifications. Affected FEMA maps in the study will be modified and a modeling report prepared.
- **Prepare updated FEMA maps**. Prepare proposed mapping using FEMA protocols for updated map panels.
- **Support floodplain permitting.** Meet with WES and Clackamas County Planning staff to discuss floodplain requirements including new floodplain mapping. Technical analysis, mapping, and modeling to support permitting are included in this task.

Assumptions

- Existing floodplain models are available from WES or FEMA.

- Corrected effective models will be prepared using new hydrology, if applicable, as developed in this task. WES will provide available as-builts for other changes in the system.
- Survey will be conducted under Task 5. Additional mapping for floodplains, such as LiDAR, will be provided by WES.
- WES will provide all public notice and fees for FEMA maps changes.
- This task does not include a LOMR.
- Floodplain permitting is addressed in Task 7.

Deliverables

- CLOMR application accepted by FEMA
- Draft and final flood study report to supplement the CLOMR
- Updated electronic models
- Revised floodplain mapping

Task 4.0 – Project Management

Activities

- Prepare and update project schedule and work plan.
- Prepare monthly billing review and invoices.
- Participate in project status meetings (non-task-specific).
- Conduct subconsultant management and contracting (non-task-specific).
- Monthly administrative project support (task setup, filing, communications).
- Review and update risk register monthly.
- Provide assistance with the grant compliance.
- Coordinate between multiple project disciplines to ensure task and project element alignments.

Assumptions

- The budget provides 15 months of project management (December 2022 through March 2024).
- Monthly project status meetings include two consultant staff and WES Project Manager.
- Subconsultant contracting is limited to four firms.
- Oversight and review of subconsultant products is included in task-specific budgets.

Deliverables

- Base project schedule
- Monthly invoices with progress notes

Task 5.0 – Surveying

Activities

The services provided may include, up to the available budget:

- **Field survey.** Perform additional and supplementary site topographic and planimetric field survey within the project area (as defined by the 3-Creeks boundary).
- **Tree survey.** Include additional trees flagged in the tree survey in the key stream restoration corridor.
- **Mapping.** The results of the field survey and related materials will be mapped to provide topographic, planimetric, and boundary survey at 1-inch = 20 feet scale. Map legend, notes, and survey stamp and signature will be provided on approved title block.
- **Wetland survey.** Survey supplementary flagged delineated wetland boundaries, OHWM, and sample plot locations, if needed.
- **Additional support.** The items above are included in up to 3 days of additional survey support to supplement final design work.

Assumptions

- The survey services will be provided on an as-needed basis up to the available budget.
- The survey team will be provided with unrestricted access to the project sites. WES will lead coordination for right of entry and provide to the consultant prior to start of work.
- Boundary survey will be based on best available record information. Proposed fee does not include the cost for title company research or title report analysis. Should these be necessary WES will provide the title report information for the consultant to provide a scope and fee for title analysis.
- Scope does not include preparation of documents, exhibits, or descriptions for any easements, or right-of-way acquisitions. Consultant may provide scope and fee for this task if required.
- WES will provide electronic versions of existing available maps and models.

Deliverables

- Base survey – electronic and PDF deliverables at 1 inch = 20 feet scale.

Task 6.0 – Design

Task 6.1 – Design Coordination and Preliminary (30 Percent) Design

The purpose of this task is to establish a consolidated set of 30 percent design drawings that address any comments to date on the design report or plans. In addition, this task will include design coordination for the consultant team and comment resolution effort and meetings during the development of the 100 percent bid plan set. Finally, the geotechnical site analysis is included for the structural design elements.

Task 6.1.1 – Preliminary (30 Percent Design)

The purpose of this task is to prepare a complete a consolidated set of 30 percent design drawings that address any comments to date on the design report or plans

Activities

- Complete 30 percent design drawings set. Establish the required sheets for the following anticipated design that includes the 3-Creeks facility outlet structure, up to 3,000 feet of stream and floodplain restoration, park connections to the design, one water quality treatment facility, and repairs to two flooding sites. Anticipated sheet list for effort estimate (up to 54 sheets):
  - General Sheets
    - Title sheet and vicinity map
    - Sheet Index
    - Legend, abbreviations, and general notes
    - Site key map and survey control
    - Site construction access and staging plan (2 sheets)
  - Demolition and Site Preparation (outlet facility)
    - Demolition plan (1 sheets at 1” = 40’ scale)
    - Demolition details
  - Construction Site Plans – Outlet Structure
    - Site plan (2 sheets at 1 inch = 20 feet scale)
    - General civil details (2 sheets)
  - Construction Site Plans – Stream Channel
    - Site plan (5 sheets at 1 inch = 20 feet scale)
    - Grading Plan (5 sheets at 1 inch = 20 feet scale)
    - Typical cross sections at key restoration measure, technique, and/or channel feature
    - General stream details (6 sheets)
    - Site plan – temporary ESCP (5 sheets at 1 inch = 20 feet scale)
    - Erosion control notes and details

  - Structural Plans (Additional Sheets to be added at 60% Design)
    - Structural Abbreviations and Notes
    - Bridge Plan and Profile (2 sheets)
  - Landscape and Access Plans
    - Landscape restoration details – planting (2 sheets)
    - Landscape details – access road modification

- **Supplemental survey.** Identify supplemental field survey, including utility locate, and provide survey to base map

Assumptions

- Design work previously completed by the consultant in previous phases will be used.
- There are no significant conflicts with existing utilities or site features (to be verified with utility locate).
- Technical specifications will be provided in ODOT format.
- Comments received on the existing design report set will be incorporated into the 60% design submittal.
- The Design Report prepared in Phase 1 will be used to support the 30 percent design. No updates are included in this phase. Comment responses to DEQ will be provided.

Deliverables

- Preliminary design (30%) drawing set list to start 60 percent design

Task 6.1.2 Project Team Coordination

This subtask includes effort associated with design coordination as well as an internal coordination with sub-consultants. This project team coordination task is provided to allow the consultant PM to address elements of the project not explicitly included within the above subtasks but needed to allow for a complete and cohesive final deliverable.

Activities

- Conduct a design team coordination meeting at the onset of each design phase –60, 90, and 100 percent.
- Participate in comment resolution meetings (2) to 1) discuss with project team and 2) address comments with Client.
- Participate in up to eight topic-specific coordination meetings.
- Participate in up to four permit coordination meetings, including stakeholder meetings.

Assumptions

- Comment design and resolution team meetings will include one designer from each subconsultant and up

to 4 Parametrix staff

- Topic-specific meetings will include up to four meetings for geotechnical engineer, stream engineer, and structural engineer, two meetings with trail designer and landscape architect, and eight meetings with the project civil engineers (2)
- Permit coordination meetings will include up to four meetings for the stream engineer and project civil engineers (2), four meetings with permit specialists (2), two with trail designer and landscape architect, and one with geotechnical engineer, and structural engineer.
- Stakeholder involvement with public involvement specialist is addressed in Task 3.5.
- Technical specifications will be coordinated as part of the design for each phase
- WES will coordinate WES staff for comment resolution meetings
- Project manager involvement in this task is addressed in Project Management Task.

Deliverables

- Comment resolution form for the 60-90- and 100-percent designs.

Task 6.1.3 – Design-Level Geotechnical Explorations and Analysis

The purpose of this task is to perform geotechnical explorations, engineering analyses, and design for the preferred design alternative. Geotechnical explorations, analyses, and recommendations will be primarily for the replacement of the single-span bridge over Mount Scott Creek used for pedestrians and maintenance vehicles. Geotechnical recommendations will be provided for construction of proposed trails on and adjacent to slopes.

Activities

- Plan and coordinate geotechnical explorations:
  - Prepare exploration plan for WES and design team review.
  - Conduct two sonic borings to characterize soils at the bridge abutments. The two borings are anticipated to be drilled to depths of up to 50-feet, and up to 75-feet, respectively.
  - Install up to two vibrating wire piezometers in one boring, to measure groundwater over time and evaluate potential for artesian or other hydraulic conditions that may impact the bridge foundation design and construction.
  - Conduct laboratory index testing on samples retrieved from the explorations.
- Prepare exploration logs for borings.
- Perform geologic reconnaissance of slopes and areas to be impacted by proposed construction.
- Develop code-based seismic design parameters for the site.
- Perform liquefaction analyses to determine depth of liquefaction, residual shear strength, and provide an estimate of seismically induced vertical settlement.

- Provide recommendations for the replacement bridge, including:
  - Bridge foundation type (deep foundation, shallow foundation).
  - Abutment wall type (MSE wall, gravity wall, etc.).
  - Bearing resistance, sliding, and lateral earth pressures (if shallow footings are recommended).
  - Axial capacity and LPILE parameters (if piles or shafts are recommended).
- Perform global stability analysis for the replacement bridge and/or abutment walls (as appropriate).
- Provide recommendations for replacement bridge abutment walls, including:
  - Bearing resistance, sliding, and lateral earth pressures.
  - Reinforcement lengths and embedment depths (if MSE walls are recommended).
- Prepare design phase geotechnical considerations technical memorandum (draft and final):
  - Present discussion of geotechnical conditions based on subsurface data and laboratory testing.
  - Present seismic design parameters for the site.
  - Present discussion of potential impacts to the proposed replacement bridge due to liquefaction and ground shaking during the design seismic event.
  - Present geotechnical recommendations for the replacement bridge and abutment walls.
  - Present discussion of geotechnical construction considerations for the bridge replacement.
  - Present discussion of geotechnical engineering and construction considerations for proposed trails, excavations, and construction.
- Review and provide comments related to geotechnical aspects of the design concept, specifications, and plans (60%, 90%, and 100%).
- Correspond and interact with and keep Oregon Dam Safety officials informed throughout the project.

Assumptions

- No geotechnical explorations or analyses are proposed for the dam, as the preferred alternative consists of solely fixing the gates and not raising or otherwise modifying the earthen embankment.
- No geotechnical explorations or analyses are proposed for construction access roads or other temporary works, which will be designed by the Contractor.
- Oregon Dam Safety will not require any geotechnical explorations or evaluations for the existing dam or proposed gate modifications.
- Site access will be coordinated through WES.
- Traffic control will not be required.
- Field exploration will be performed during weekdays between 8 am and 6 pm.

- Drilling will occur between December 2022 and January 2023. Delays of the field exploration program may result in increased drilling costs.
- Drill cuttings, including soils and water, are not contaminated, and will be drummed and disposed of off-site.
- Permits for vegetation clearing and access to conduct explorations will be secured by others.
- Sonic core samples will be disposed of after review and laboratory testing.
- Seismic design parameters will be code based and do not include site response analysis.
- Mitigation design for potential seismic induced liquefaction and deformations is not included in this scope.
- Scour depths at the bridge location will be evaluated by others and provided prior to geotechnical engineering design.
- Proposed creek grading information at the bridge location will be provided prior to geotechnical engineering design.
- Bridge and abutment wall geotechnical design recommendations will vary depending on type of foundation system and type of wall recommended. Further, if an integrated wall and bridge foundation is proposed (e.g., GRS-IBS), then bridge and wall recommendations may be combined as appropriate.
- No geotechnical engineering evaluations are required for temporary works, channel grading, riffles, wattles, or engineered log jams.
- Detailed plans and specifications will be developed by others.
- This scope does not include bid support and construction observation.
- One round of comments will be incorporated into the design phase geotechnical considerations technical memorandum before finalizing.
- Deliverables will be submitted electronically.

Deliverables

- Design phase geotechnical considerations technical memorandum (D-TM)

Task 7.0 – Intermediate (60 Percent Design)

The purpose of this task is to prepare 60 percent design-level drawings.

Activities

- Advance drawings to intermediate design level, including civil, structural, and landscape design drawings, as applicable:

- Flood control elements (flood structure and other elements designed to increase flood storage on site).
- Stream design
  - Revise design plans to incorporate all comments and revisions.
  - Update hydraulic model to account for design revisions and assess channel function and stability.
  - Evaluate placement and construction of channel stabilization and habitat structures.
- Access design for construction access and staging areas, and maintenance access road.
- Structural Plans: add the following sheets:
  - Foundation Details
  - Abutment 1 Details
  - Abutment 2 Details
  - Barlist

- Prepare Basis of Design Technical Report (to support 60 percent design level).
- Develop draft technical specifications.
- Advancement of EOPC to intermediate design level.
- Prepare or update basis of design technical memorandum.

Assumptions

- The same sheet list and assumptions described for preliminary (30%) design in Task 6.1.1 apply.
- 60 percent design documents will be used by others to develop FEMA, removal-fill, and County floodplain and grading permit applications, as necessary.
- One meeting with WES is included to discuss and review the intermediate design and is included in Task 6.1.2.
- WES will provide one set of resolved and consolidated comments on the 60% design which will be incorporated into the 90% design submittal.

Deliverables

- Intermediate (60%) design drawings
- Draft technical specifications
- Intermediate (60%) EOPC
- Draft basis of design report

Task 8.0 – Pre-Final (90 Percent Design)

The purpose of this task is to prepare 90 percent design-level drawings.

Activities

- Revise design using the same process as under the 60% design while providing additional detail and specificity to all design deliverables:
  - Revise design plans to incorporate all comments and revisions.
  - Update hydraulic model to account for design revisions and assess channel function and stability.
  - Evaluate placement and construction of channel stabilization and habitat structures.
  - Develop detailed structure tables, if appropriate.
  - Perform quantity take-offs for inclusion in permitting documents.
- Advance drawings to prefinal design level, including civil, structural, and landscape design drawings, as applicable, including:
  - Access design
  - Flood structure
- Develop prefinal technical specifications.
- Provide input into Division 0/1 specifications section such as bid form, summary of work, price and payment.
- Advance EOPC to prefinal design level.
- Update design technical memorandum describing basis of design, process description, and other information.

Assumptions

- Same assumptions described for preliminary (30% and 60%) design apply.
- One meeting with WES is included to discuss and review the intermediate design and is included in Task 6.1.2.
- WES' comments on 90% design will be incorporated into the final (100%) design submittal.
- The 90 percent plans will provide the basis for final permitting documents.

Deliverables

- Prefinal (90%) design drawings
- Prefinal technical specifications
- Prefinal (90%) EOPC

- Updated basis of design report

Task 9.0 – Final (100 Percent Design)

The purpose of this task is to prepare 100 percent design-level drawings.

Activities

- Advance drawings to final design level, including civil, structural, and landscape design drawings, as applicable.
- Draft final technical specifications
- In coordination with the EOPC, prepare alternate design schedules to match available funding, if needed.
- Advance EOPC to final design level. EOPC is based on one schedule for the entire project and alternate schedules as identified above.
- Update project schedule to include bid schedules for construction.

Assumptions

- Same assumptions described for preliminary (30%) design apply.
- WES' comments on 90% design will be incorporated into the final (100%) design submittal.
- Comments from review agencies will be internally consistent and actionable to allow revision of deliverables.

Deliverables

- Final design (100%) drawings
- Final technical specifications in ODOT format
- Final (100%) EOPC
- Final basis of design report

Task 10.0 – Permitting

The purpose of this task is to prepare the forms and documents to obtain permits to construct the proposed improvements. Anticipated required permits include:

- Oregon Department of Fish and Wildlife (ODFW) Fish Passage Plan Approval
- US Army Corps of Engineers (USACE) Section 404 permit (Nationwide permit anticipated)
- Oregon Department of Environmental Quality (DEQ) Section 401 Water Quality Certification
- Oregon Department of State Lands (DSL) removal-fill permit (Individual Permit anticipated)
- County Permits

- Land use and construction management plan approval
  - Grading permit
  - Habitat Conservation Area (HCA) and Water Quality Resource Area (WQRA) permits
  - Floodplain modification

Activities

Fieldwork, report preparation, and mitigation plans will be prepared to support permit applications. The 60 percent design will be used to initiate the permit applications.

- Document review. Research and review documents and data as available.
- Fieldwork and reporting. The following field work will be conducted in support of the related permits:
  - Wetland and waters (ordinary high-water mark [OHWM]) delineation 3-day site visit, report (for DSL concurrence), and 1-day concurrence site visit with DSL
  - WQRA and HCA site assessment and report (to be submitted with County Land Use Application)
  - Biological assessment (BA) for Endangered Species Act (ESA) listed fish to National Marine Fisheries Service (NMFS) and US Fish and Wildlife Service (USFWS) (as applicable, unless determined to be unnecessary should the project meet requirements for USACE's nationwide permitting and ESA programmatic consultation through USACE review)
- Permit application preparation. Prepare permit documents, which are anticipated to include:
  - Fish passage plan approval. This task includes the preparation of a fish passage plan to ensure bridge, culvert, or flood control structures are in compliance with Oregon's fish passage rules.
  - Joint Permit Application (JPA) - USACE Section 404, DEQ Section 401, and DSL Removal/Fill Permit. This task includes the preparation of a complete joint permit application, including alternatives analysis, wetland and waters function and value assessments, project drawings, and an "Alternatives Analysis" describing how proposed impacts have been minimized during project design.
    - The consultant will perform up to two stream function assessments (SFAM) in areas of stream impacts and two wetland assessments (ORWAP) for determining mitigation requirements for impacted aquatic resources. Includes 2-day site visit and data processing. Data will be included as an attachment to the JPA.
    - Figures to be included (on 8.5x11 sheet size) with the JPA include vicinity, tax lot, recent aerials, existing conditions, site plan view, cross sections, access and staging plan, construction stormwater management and sediment and erosion control plan (to be prepared under Task 2.5), and planting and mitigation plan sheets.
    - The cultural resources report and biological assessment will be submitted with the JPA to USACE.
  - Clackamas County permit applications
    - WQRA and HCA report in support of construction management plan application
    - Floodplain permit

    - Grading permit

- **Permit Support.** Provide ongoing coordination and support for WES during the project via correspondence with regulatory agencies post-permit application submittal.

Assumptions

- WES will lead and be the responsible designee for applications for construction, utility, and right-of-way use permits.
    - The cultural resources fieldwork and report will be addressed by WES
- The project is anticipated to result in a net functional benefit to wetlands and waters through a self-mitigated design and therefore, this task does not include preparation of a compensatory mitigation plan.
- The NPDES Construction Stormwater Permit Notice of Intent will be a contractor-supplied permit.
- WES will be responsible for all permit application fees and third-party review fees.
- WES will be responsible for the publication of all notices and announcements.
- All deliverables will be in PDF file format. WES will be responsible for duplication and distribution of permit submittals and materials.
- The project will not be constructed with federal funds. No National Environmental Policy Act (NEPA) documentation will be required related to federal funding. However, the need for a federal permit (e.g., USACE Section 404 Permit) will trigger a separate Environmental Assessment process conducted by USACE under NEPA, the ESA, and the National Historic Preservation Act (NHPA).
- The following agency coordination meetings are anticipated: two onsite agency coordination meetings (assumes joint meetings); up to eight permit coordination conference calls.
- Required environmental project design criteria (ESA SLOPES, fish passage, WQRA/HCA, etc.) will be coordinated by the Senior Scientist with the project design team.
- DSL waterway authorization will not be required for the water control structure or in-stream project elements.

Deliverables

- Wetlands and waters report for DSL Concurrence
- Permit application materials:
    - JPA for the following permit applications:
        - DSL removal/fill permit
        - USACE Section 404
            - Biological assessment (if ESA compliance is not achieved through a SLOPES programmatic under Section 7 of the ESA)

        - DEQ Section 401 Water Quality Certification
    - The JPA will include the following attachments:
        - Stream Function Assessment Methodology (SFAM) and Oregon Wetland Rapid Assessment Protocol (ORWAP) data and reporting (for up to two stream locations and two wetland locations)
        - Land Use Compatibility Statement (LUCS)
        - Figures
        - BA and cultural resources report (USACE submittal only)
        - DSL Wetland Delineation Concurrence
    - ODFW Fish Passage Plan (for up to two crossings)
- County Land Use Development Application
    - Application form and narrative
    - HCA and WQRA report and mitigation plan
    - Floodplain Development Permit for Type II Review
    - County grading permit
    - Construction management plan

Phase 3 – Construction Observation- NOT INCLUDED IN THIS AUTHORIZATION

Task 11.0 – Bidding Assistance

Activities

- Assist WES with bid document development.
- Support WES with prebid meetings.
- Answer questions and Requests for Information (RFIs) from bidders.
- Assist with bid review and selection.

Assumptions

- Bid document technical sections will consist of final Phase 4 design deliverables. WES will provide front-end administrative and contracting sections of bid documents.
- The consultant will assist WES with development and assembly of bid documents.
- There will be one prebid meeting, attended by the consultant project manager and project engineer.
- A total of 88 professional hours have been budgeted for bidding assistance.
- Construction services is not included in this phase.

Deliverables

- Requests for Information (RFIs) responses and technical addenda and interpretation of contract documents.

The purpose of this phase is to provide services to support WES with the final bid package, bidding support, and selection of the construction contractor.

Task 12.0 – Construction Observation Support

Activities

- Provide assistance during construction, including review, response, and acceptance of submittals and change orders, and periodic inspections to verify the constructed improvements are performed in accordance with the intent of the design documents.
- Prepare record drawings from contractor redline markups and changes documented by the construction observations.
- Provide an asset list of structural and nonstructural elements and storm drainage components included, if any.
- Develop an operations and maintenance (O&M) manual that will include summary of anticipated site performance and recommendations for routine inspections and maintenance following site construction.

Assumptions

The construction time frame is 18 months from contract award to contract closure.

Deliverables

- Record drawings
- Asset list
- Project closeout report
- O&M manual

Exhibit C
Updated Phase II Fee Schedule

Client: Clackamas County
Project: Three Creeks Natural Area Floodplain Enhancement
Project No: 553-1751-848

Summary Cost Estimate

					Parametrix		Biohabits		Juncus		Shannon & Wilson	
					Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours
Task	**Subtask**	**Description**	**Labor Dollars**	**Labor Hours**								
P02		**Phase 2-Detailed Design and Permitting**	**$706,753.01**	**3,862**	**$488,827.85**	**2,587**	**$80,480.00**	**466**	**$46,455.00**	**327**	**$73,000.00**	**352**
P02	0100	Phase Kickoff Meeting	$6,175.17	26	$4,465.89	18	$400.00	2	$370.00	2	$600.00	2
P02	0301	Additional Project Analyses-Hydrologic and Hydraulic Modeling	$4,661.80	24	$4,661.80	24	$0.00	0	$0.00	0	$0.00	0
P02	0303	Additional Project Analyses-Public Access Coordination	$6,069.60	32	$3,109.60	16	$0.00	0	$2,960.00	16	$0.00	0
P02	0305	Additional Project Analyses-Public Engagement Process	$23,367.30	148	$3,485.30	12	$1,600.00	8	$2,220.00	12	$0.00	0
P02	0306	Additional Project Analyses-Hydraulic Modeling for Flood Studies and Mapping	$31,052.71	164	$31,052.71	164	$0.00	0	$0.00	0	$0.00	0
P02	0400	Project Management	$51,459.40	208	$47,095.52	181	$0.00	0	$2,775.00	15	$0.00	0
P02	0501	Surveying	$15,792.47	108	$15,792.47	108	$0.00	0	$0.00	0	$0.00	0
P02	601.01	Preliminary (30% Design)	$18,373.60	96	$15,173.60	80	$3,200.00	16	$0.00	0	$0.00	0
P02	601.02	Project Team Coordination	$27,482.22	132	$18,922.22	92	$3,200.00	16	$2,960.00	16	$2,400.00	8
P02	601.03	Design-Level Geotechnical Exploration and Analysis	$75,672.16	374	$5,672.16	32	$0.00	0	$0.00	0	$70,000.00	342
P02	0700	Intermediate (60% Design)	$129,980.32	748	$84,040.32	452	$33,080.00	196	$12,860.00	100	$0.00	0
P02	0800	Pre-Final (90% Design)	$102,484.42	584	$72,024.42	388	$21,640.00	128	$8,820.00	68	$0.00	0
P02	0900	Final (100% Design)	$74,818.96	424	$58,238.96	316	$9,200.00	52	$7,380.00	56	$0.00	0
P02	1000	Permitting	$139,362.89	794	$125,092.89	704	$8,160.00	48	$6,110.00	42	$0.00	0
P03		**Phase 3-Bidding and Construction Observation**	**$96,582.87**	**536**	**$46,682.87**	**276**	**$49,900.00**	**260**	**$0.00**	**0**	**$0.00**	**0**
P02	1100	Bidding Assistance	$31,680.68	168	$16,280.68	88	$15,400.00	80	$0.00	0	$0.00	0
P03	1200	Construction Observation Support	$64,902.19	368	$30,402.19	188	$34,500.00	180	$0.00	0	$0.00	0
		Labor Totals:	$803,335.88	4,398	$535,510.72	2,863	$130,380.00	726	$46,455.00	327	$73,000.00	352
		Expenses:	$43,982.00		$2,660.00		$700.00		$1,500.00		$38,800.00	
		Project Totals:	$847,317.88		**$538,170.72**		**$131,080.00**		**$47,955.00**		**$111,800.00**	